Amendment to the Claims:

1. (Cancelled).

2. (Currently Amended) A system as claimed in claim [[1]] 18, wherein stainless steel rods are present in the central portion of the tubular body.

3. (Currently Amended) A system as claimed in claim [[1]] 8, wherein stainless steel rods extend substantially over the entire length of said tubular body.

4. (Currently Amended) A system as claimed in claim [[1]] 3, wherein said stainless steel rods are connected to each other at both ends of each rod.

5. (Currently Amended) A system as claimed in claim [[1]] 8, wherein said tubular body comprises a stainless steel cylindrical wall having axial slits.

6. (Currently Amended) A system as claimed in claim [[1]] 8, wherein said stainless steel rods [[are]] include strips positioned substantially in a cylindrical plane.

7. (Currently Amended) A system as claimed in claim [[1]] 8, wherein a plate-like element is wound into a spiral shape in order to form a cylindrical wall, such that said plate-like element comprises substantially parallel stainless steel strips, the stainless steel strips extending in substantially axial direction after the cylindrical wall has been formed.

8. (Currently Amended) A magnetic resonance imaging system ~~as claimed in claim 1, wherein~~ including a gradient coil system comprising:

an inner coil configuration and an outer coil configuration that is positioned substantially coaxially with said inner coil configuration, both coil

configurations being attached to a tubular body located between said two coil configurations and extending substantially coaxially with both said coil configurations, wherein said tubular body comprises stainless steel rods which are positioned substantially in axial direction, at least some of said rods ~~comprise~~ comprising cooling channels for guiding a cooling medium.

9. (Currently Amended) A system as claimed in claim [[1]] 8, wherein at least some of said rods comprise an axially extending space for accommodating pieces of shim iron.

10. (New) A magnetic resonance imaging system including a gradient coil system comprising:

a tubular body including:

a pair of stainless steel end rings;

a plurality of stainless steel rods extending axially and connected with the end rings;

a reinforced polymer disposal between and enclosing the stainless steel rods and end rings;

at least one outer gradient coil disposed on an outer surface of the tubular body; and

at least on inner gradient coil disposed on an inner surface of the tubular body.

11. (New) The system as claimed in claim 10, wherein at least some of the stainless steel rods define passages for cooling fluid extending therein.

12. (New) The system as claimed in claim 10, wherein at least some of the stainless steel rods define passages configured to accommodate shim iron.

13. (New) The system as claimed in claim 10, wherein the rods have a z-shaped cross section and are arranged in a stacking position at least partially overlapping each other.

14. (New) The system as claimed in claim 10, wherein the stainless steel rods and the stainless steel end rings are a unitary construction.

15. (New) A gradient coil system for a magnetic resonance imaging system comprising:

a tubular body including:

at least one stainless steel element which defines a plurality of axially extending passages circumferentially distributed around the tubular body;

the axially extending passages being configured to accommodate pieces of shim iron;

at least one outer gradient coil disposed on an outer surface of the tubular body; and

at least on inner gradient coil disposed on an inner surface of the tubular body.

16. (New) The system as claimed in claim 15, further including a plurality of pieces of shim iron disposed in the axially extending passages.

17. (New) The system as claimed in claim 15, wherein the at least one stainless steel element further defines cooling channels for guiding a cooling fluid through the tubular body.

18. (New) The system as claimed in claim 15, wherein the at least one stainless steel element includes a plurality of stainless steel bars.

19. (New) The system as claimed in claim 18, wherein the stainless steel bars are interconnected at their ends.